



## NOTES ON FLU VACCINE

Let me open this with an acknowledgement that Montana vaccine providers, public and private health have been excellent to work with during this flu season. I know we are all tired of dealing with the vaccine shortage issues, and all feel concerned that we are leaving our communities at risk for influenza disease. That concern is reflected in your efforts to share with the communities that did not receive their vaccine supply, and it is reflected in the gracious response of the healthy people 65 years of age and older that deferred their requests for their annual flu shot in response to the shortage.

This year, since we are forced to target the very high-risk population, it has given us a much better opportunity of identifying and offering the vaccine to them. May I ask that you all make a final huge effort to bring the vaccine to those high-risk infants, chronically ill adolescents and adults, to the women who are pregnant during this flu season, and finally to those people aged 65 years and older. We have to encourage those healthy Montanans  $\geq 65$  years that stepped back to now come forward. We must encourage those pregnant women, who never felt better in their life, to take their place in line for a flu shot this year. Please focus your efforts on the families and care givers of the infants from birth



to 6 months of age, and the caregivers for the elderly and frail, which need that circle of protection. For those counties who were forced to re-prioritize more stringently than the CDC priority list because of vaccine supply, please look at your list again and urge the local providers to call back those people who were turned away earlier. Vaccine will be available during December and beyond. Additional vaccine will be distributed through January from the CDC apportionment. If you have not indicated your need for additional vaccine doses to meet your high-risk needs, please call the county health department or the Montana Immunization Program today.

We have learned some valuable lessons during this season, as I know you have as well. Please take a few notes and we will plan to share them during our Regional Workshops in early 2005. We must all go back and make plans for next year's flu season, with the same stakeholders about the roles we played during this flu season. Are you preparing to do "after action" reports to the people you did your planning with locally? How can you improve planning and communications to make next year's flu season run more smoothly? Public health at the state level in Montana seems to have assumed a role of "clearing house" for public and private

## **NOTES ON FLU VACCINE cont.**

providers. How did that work out for you locally?

One of the take home messages for us was how important it was to implement good risk communication strategies. Those strategies included:

First determine the message with the best input and information you have,

Develop a press release,

Meet the needs of the public and the media with good, factual information, based on the contents of your press release,

Stay on message,

End all press releases with the reminder to the public about good health habits to help prevent disease transmission.

Oh, yes, and flexibility is the key to survival during flu vaccine distribution!

We agonized a year and a half ago about the amount of VFC flu vaccine to order for the children 6 months through 35 months of age. We still are anxious about that number because we have not had an “ordinary” year during which we can test our numbers. Last year there was a run on vaccine to protect the very young and vulnerable children. This year we have had to turn all but the very high risk away! We still have the preservative-free vaccine in syringes for the children 6 months – 35 months who are VFC eligible. Please remember to get that second dose into the little ones who have not received the flu vaccine previously.

However, as we get this newsletter ready for the printer, we have been incredibly fortunate that the influenza disease has not been as aggressive as it has been in the recent past. Can we ask for a better gift than that!

## **PERTUSSIS IN MONTANA**

Like many other states, Montana has seen a dramatic increase in the number of Pertussis cases in 2004. As of December 6, sixteen counties have reported at least one case and we estimate that approximately 70 cases will be reported by the end of the year. This total is significantly higher than the last few years when only about 5 cases were reported each year. Five counties (Cascade, Flathead, Gallatin, Missoula and Ravalli) have had clusters of cases and account for approximately 75% of the reported cases too date. The remaining cases are sporadically distributed throughout the state and many appear to have been isolated events.

Pertussis can be a serious illness in individuals of any age but is particularly serious for infant less than 12 months of age. Complications leading to hospitalization are very common in infants and approximately 15 infants die each year in the US as a result of Pertussis. Montana reported one of these fatalities in a Gallatin County infant in early 2004. In addition to vaccination, thorough investigation of cases and close contacts is essential to controlling Pertussis and preventing further spread. DPHHS has distributed materials intended to assist agencies with investigations and is always ready to assist investigations. For assistance with an investigation or copies of the latest resources contact the Communicable Disease Program at 444-0273.



## Behavioral Risk Factor Surveillance System, United States 2003, Shows Montana #1

The results of the 2003 BRFSS reports are out and Montana ranks number one for PPV23 among adults aged 18-64 years with diabetes. Montana's rate was 58.2% the range was 19.5-58.2%. Our pneumococcal rate for adults 65 and older was 69.1%, with a range of 31.6-73.0%. We tied with Colorado for 8<sup>th</sup>.

Our influenza vaccination rate was 46.6% for adults age 18-64 with asthma. We tied with Wyoming for 1<sup>st</sup> place. The range was 22.5-46.6%. Montana ranked 5<sup>th</sup> among the states for influenza in adults 18-64 with diabetes at 58.8%. The range was 26.5-62.3%.

The survey ranked Montana 16<sup>th</sup> for adults 65 and older for influenza vaccination with 72.8%. The range was 34.9-80.3 %.

Thank you, for all your hard work in the trenches in moving Montana closer to the Healthy People 2010 goals. Without your endeavors we could not achieve the number one ranking.



Pediarix cannot be used for children older than 7 years of age, due to the pertussis and diphtheria components. Td is the vaccine of choice for children over 7 and for adults.

## Self Quiz for Tetanus Risk

A cut, scrape or scratch from working around your home, garden or yard exposes you to tetanus.

Adults are at greater risk of tetanus infections than children?

Tetanus bacteria can be found in dirt, potting soil, and manure.

The schedule for tetanus for everyone is three or four doses plus a booster dose every ten years.

Td is the vaccine of choice for children 7 years and older and for adults.

Tetanus is the only vaccine-preventable disease that is infectious, but not contagious. 84% of Americans participate in gardening or yard work every year: 31% of tetanus cases reported between 1998 and 2000 came from garden, yard, or farm injuries.

If you answered false to any of the questions, you should learn about tetanus.

## Get Down and Dirty with Tetanus

**Clostridium tetani is a gram-positive anaerobic bacterium that may develop a terminal spore. The organism itself cannot survive in the presence of oxygen and is sensitive to heat. Spores though are resistant to heat and to phenol and other antiseptics.**

**The spores are distributed in soil and in the intestine and feces of horses, sheep, cattle, dogs, cats, rats, guinea pigs and chickens. Manure treated soil may contain large number of spores. In areas like Montana a significant number of adults may harbor the organism.**

**Once the spores enter the body, they germinate and begin to produce a poison that blocks nerve impulses that allow muscles to relax. This results in excruciating muscles spasms. The spasms are so strong they can crack thighbones and vertebrae.**



### Colder Is Not Always Better

The recommended temperatures for vaccine refrigerators range from 2-8° C or 35-46° F. During site visits this year, Health Services Specialists have found many temperatures below 2° C and 35°F. Some were close to freezing. If you keep your temperatures closer to the mid-range (4-5 °C, 39-42°F), it is less likely temperature fluctuations will inactivate your vaccine.



### More on MMR Vaccine & Autism Abi Berger, associate editor, BMJ, and general practitioner

The following is an excerpt from BMJ

Presenter and journalist Brian Deer seems to have single-handedly eaten away at the MMR story. His clear and simple presentation of this, his latest chapter—describing an enormous clash and conflict of interest between science, business, huge egos, and the potential to make megabucks—belies the huge and prolonged efforts he has clearly gone to in trying to get to the bottom of the MMR tale of woe.

Following the publication of his paper in the *Lancet* (*Lancet* 1998;351: 637), Dr Andrew Wakefield held a press conference in February 1998, during which he raised concerns that the MMR vaccine might be causally linked to inflammatory bowel disease and the subsequent development of autism in young children. These concerns in turn led Dr Wakefield to offer his own personal opinion that giving single measles, mumps, and rubella shots might be safer for children. In one fell swoop he had undermined the MMR vaccination

programme in the United Kingdom, and subsequently around the world.

As scientists and epidemiologists watched the unraveling of the MMR vaccination campaign, some questions cried out for an answer. Where was Andrew Wakefield coming from? What was the basis of his opinion that single shots might be safer? Large scale international epidemiological studies have repeatedly failed to find any indication for his advice to give single shots, or confirm the assertion of a causal link between the MMR vaccine and autism. While much time and money have been spent trying to find the answers in scientific study, a documentary by journalist Brian Deer, suggested that the answers might be found in the world of commerce.

*Dispatches* alleged that, nine months before the 1998 press conference, Dr Wakefield had filed patent applications at the London Patent Office for a new, alternative single measles vaccine and several potential treatments and even "cures" for inflammatory bowel disease and autism. Nine months later, parties to those patent applications sparked the MMR health scare. As one commentator who was put on the spot said, on being made aware of this, not only did these patented "inventions" represent enormous claims, they also represented the potential of big money. Enough, it was agreed, to open a new medical school.

Deer dug further to find out exactly what had been patented. Members of the scientific community to whom he showed the applications unanimously agreed that the proposed technology behind the inventions (for example, injecting measles into mice, and then, after extracting and processing white cells, injecting the result into pregnant goats and using their colostrum to create capsules for children) lacked scientific credibility.

Cut to an interview with a hitherto unknown character called Dr Nick Chadwick, a scientist who was a PhD student in Wakefield's team in the late 1990s. Dr **MMR continued**

Chadwick was responsible for devising the scientific techniques that would later be used to detect the presence of the measles virus in the guts of children with autism. Dr Chadwick told Deer categorically that using these techniques he had not detected any live measles virus in the guts of any of the 40 children examined. Nor was any measles virus found in any of the cerebrospinal fluid samples obtained. And yet, despite this, these findings were not made public. Dr Wakefield claims that he subsequently published the fact that he considered the technology used by Dr Chadwick to be insufficiently sensitive.

When Dr Chadwick was asked why he had not divulged his findings at the time, his excuse was that he thought the story would simply die. At the time he was a student, and he felt he could not argue with Dr Wakefield, who was a charismatic supervisor.

Dr Wakefield now spends much of his time in the United States, where he is linked to a company that promotes products said to be of benefit to autistic children. He continues to address huge audiences at major conferences on autism. And he continues to refuse to be interviewed by Brian Deer.



It's Beginning To Look A lot Like Pertussis When...

You have a patient with cough illness lasting greater than or equal to 2 weeks with one of the following;

Paroxysmal cough

Inspiratory whoop

Post-tussive vomiting without other apparent cause

Epi link to a pertussis case ((epi links do not need to have a two week long cough)



Invalid Contraindications to Vaccination

Mild illness

Antibiotic therapy

Premature birth

Allergies to products **not** in the vaccine

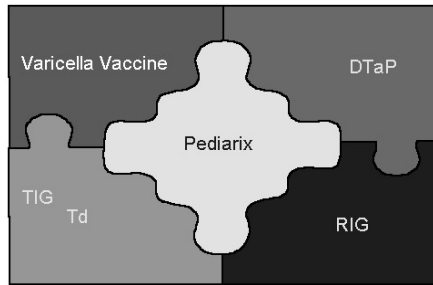
Pregnancy in the household, except for vaccinia (smallpox)

Family history of adverse reactions unrelated to immunosuppression, or family history of seizures or SIDS

Need for TB skin testing

Need for multiple vaccines

## PUZZLES” OF THE MONTH



**Situation 1:** An 8-month-old infant is brought to a vaccination clinic to complete the 6-month series of childhood shots. This child has recently recovered from a case of culture-proven pertussis.

**Question:** Should this child receive the DTaPertussis vaccine or is it better to consider the child immune and substitute DT vaccine?

**Answer:** The ACIP recommendations do not recommend vaccinating a child who has had documented pertussis with pertussis vaccine. But, in the "Guidelines for the Control of Pertussis Outbreaks," not everyone agrees. Some experts recommend including the pertussis component for vaccination of infants who have had culture-proven pertussis. The experts are hampered in their decision making by lack of serologic studies showing what the correlates of immune-protection are, so there are no tests to give us data on waning immunity. Moreover, there has been at least one case of a child who apparently got a second case of pertussis. Bottom line, there would seem to be no harm in vaccinating children with a history of pertussis, even if ACIP says it is unnecessary. For an infant who is immune, it would simply be a wasted dose of vaccine but additional peace of mind in knowing the infant is truly armed against another pertussis episode.

**Situation 2:** A 15 month-old child presented to a clinic and accidentally received hepatitis B vaccine subcutaneously and MMR vaccine intramuscularly.

**Question:** The wrong routes were inadvertently used to give these injections does the child need to be revaccinated?

**Answer:** Vaccines should always be given by the routes recommended by the manufacturer because data regarding safety and efficacy of alternate routes are limited. However, ACIP recommends that vaccines given by the wrong route be counted as valid with two exceptions: **hepatitis B or rabies vaccine** given by any route other than IM must not be counted as valid and needs to be repeated.

**Situation3:** A 7-year-old came to a clinic with only 3 DTaP doses, #1 at 2 mos, #2 at 5 years of age, and #3 given 2 mos after #2.

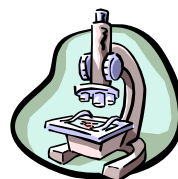
**Question:** How many more doses are needed?

**Answer:** If the first dose of tetanus and diphtheria toxoid was administered prior to the first birthday, a total of four doses constitute a complete primary series. The child needs one additional dose of Td (adult formulation). This dose should be given 6-12 months after the third dose.

**Situation 4:** A 15-month-old is inadvertently given DT instead of a DTaP. The mother wants the toddler to get the pertussis component.

**Question:** What interval should there be between the DT and DTaP?

**Answer:** ACIP does not address this issue. The current opinion is to repeat the dose as soon as the error is discovered.



Pertussis Real-time PCR  
Testing Available Through  
the Montana Public Health

Laboratory by the Year's end!

**During a recent interview with Susie Zanto, CLS (NCA), SM (NRM), Technical Services Manager of the Montana Public Health Laboratory, she shared some great news! The Montana Public Health Laboratory will be performing pertussis Real-time PCR testing by the end of December 2004. Susie graciously provided the following important information regarding Pertussis Real-time PCR testing.**

What is pertussis Real-time PCR testing?  
**Real-time pertussis PCR analysis detects specific nucleic acid amplification products as they accumulate in real-time. Real-time PCR uses a fluorescently labeled oligonucleotide probe, which eliminates the need for post-PCR processing. It is capable of screening genetic activity within hours using a minimal amount of sample material, and can detect a single molecule of DNA.**

What about culturing for pertussis?  
Culturing for pertussis remains important. Not only does it serve as a backup to the PCR, in the event of an outbreak, it may be important to perform fingerprinting of the causative bacteria. (which is only available via culture) ***PCR will replace the DFA Direct Slide test, and offers better sensitivity and specificity.***

What's the cost of pertussis real-time PCR?  
\$60.00  
The CPT code is 87798

When is PCR testing indicated?

**The patient must be symptomatic in order for the PCR to be meaningful. Asymptomatic positive PCR for pertussis is not considered a case of pertussis. PCR testing may be able to detect pertussis 3-4 weeks after date of onset. PCR may also be able to detect pertussis after a patient has been started on antibiotic therapy.**

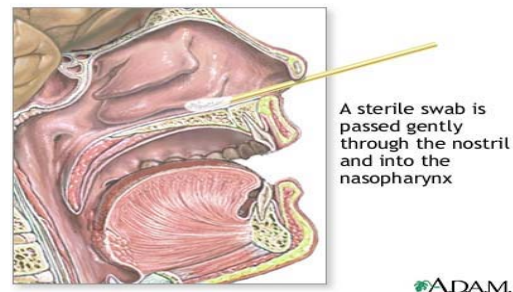
What's the turn around time?

**The results from this test can be available in 24-48 hours.**

How do you send in a specimen for Pertussis Real-time PCR testing?

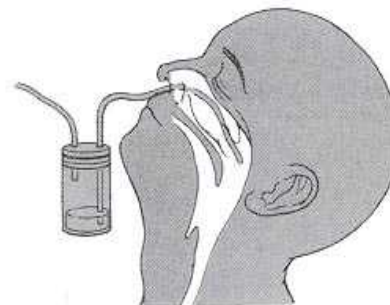
**Nasopharyngeal swab: place swab in sterile tube without transport. Store in cold conditions and ship on blue ice packs. A second swab should be taken**

**and placed in Regan Lowe Transport**



**media for culture.**

**Nasopharyngeal Wash/Aspirate: Introduce 1-2 ml in sterile saline into nasopharyngeal cavity, aspirate into a sterile vial. Store in cold conditions and ship on blue ice packs.**



**MONTANA PUBLIC HEALTH LAB -  
#444-3444**

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**UPCOMING EVENTS:**  
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- "Every Child By Two" Immunization Meeting

**ALL IMMUNIZATION PARTNERS WEL**

January 21, 2005 -- 12 Noon to 2:00 p.m.

- **Regional Workshops**

February & March - Watch for dates and registration information.

- **Teleconference**

**"Surveillance of Vaccine Preventable Diseases"**

**DATE: January 9, 2005 More**

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THE READING WELL

TO ORDER MORE BOOKS -



at:

5580.

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